P-PATCH COMMUNITY GARDENING PROGRAM

# UPGARDEN P-PATCH COMMUNITY GARDEN: DESIGN, PROCESS, AND CONSTRUCTION FAQ

**What is the role of landscape architects in this project?**
Landscape architects work with communities to design and construct public places such as parks, gardens, and plazas. To engage neighborhood residents in the UpGarden's design, the Kistler | Higbee Cahoot worked with Seattle Department of Neighborhoods P-Patch Community Gardening Program to organize a series of workshops to solicit their hopes and dreams for the garden and translate them into a final garden design. They then worked in collaboration with other disciplines (such as a structural engineer) to develop a design that is constructible, affordable and safe.

**What are some of the design challenges of building on top of a parking garage?**
Structural capacity, slope and microclimate were the three major design challenges of working on this rooftop.

Structural capacity
While it might seem that a structure that holds cars could easily hold soil, saturated soil is actually very heavy and requires considerable structural capacity. One foot of saturated soil can weigh as much as 100 lbs per square foot, while the Mercer Garage (built in 1962) was designed for a much lighter load of 40 lbs per square foot. Newer garages are designed for as little as 30 lbs per square foot. Spreading the soil evenly across the entire rooftop would result in only about 8" in soil depth. By concentrating the soil in broad terraces divided by wide pathways, the Kistler | Higbee Cahoot was able to get 12-18" inches of soil depth across the roof. This careful weight balance was achieved by working closely with the team's structural engineer, Tom Bykonen of Perbix Bykonen.

Slope
The roof of this section of the garage slopes steeply so holding the soil in place without it sliding was an important consideration. The Kistler | Higbee Cahoot looked to other agricultural models of terracing and contour plowing to create undulating terraces that soften the look of the garage while also using the slope to hold back soil and achieve the desired soil depths.

Microclimate
Rooftops are harsh environments with more sun and wind exposure than most other gardens. To make sure that gardeners had a suitable environment to grow plants, the team consulted with Colin McCrate of Urban Farm Company who shared his experience of what has worked on the rooftop garden of the Bastille, a local restaurant. To prevent the modest depth of soil from drying out, the team provided gardeners with the option of adding drip irrigation in their plots to insure adequate moisture. Trellises near the community gathering areas will provide shade for gardeners.

**What is the lifespan of the project?**
The 20-year Seattle Center Century 21 Master Plan includes creation of a new transportation hub underneath the Memorial Stadium, and the Center's Memorandum of Agreement with Seattle Public Schools calls for a transfer of Mercer Garage to the school district in exchange for the Memorial Stadium site, possibly within the next several years. Because of this, the Kistler | Higbee Cahoot took a full life-cycle perspective in the garden's design and chose materials that could be reused or recycled upon its decommissioning. For example, the garden is primarily constructed from sustainably harvested wood that can be reused or recycled. While this project is temporary, the knowledge gained in planning and constructing is already being applied to future projects in other locations.

**What is the concept for the garden?**
UpGarden P-Patch transforms and subverts a petroleum-centered vision of the future into one that is sustainable and regenerative. Organized around a blanket of curving terraces that soften the 1962 World's Fair era concrete garage structure, the design draws inspiration from the terracing and contour plowing of vernacular agricultural landscapes. Wide weight-reducing paths weave through the garden, creating a network of community nodes that provide the framework for community interaction. Vertical elements such as the trellises reference the adjacent treetops that ring the garden's perimeter, emphasizing the feeling that this garden is in the sky.

**How was the community involved in this project?**
Community members of the neighborhoods surrounding UpGarden P-Patch - Uptown and Queen Anne - were involved in all aspects of the garden's visioning, design, and construction. They turned out en masse for the three community workshops – at times there were up to 80 people crowded into a small room at Seattle Center. The Kistler | Higbee Cahoot working with P-Patch community gardening staff crafted three public workshops that included visioning exercises, small group discussions, and community organizing strategies. Over the course of a month and a half, the community distilled their vision through three design alternatives and then refined a final design.

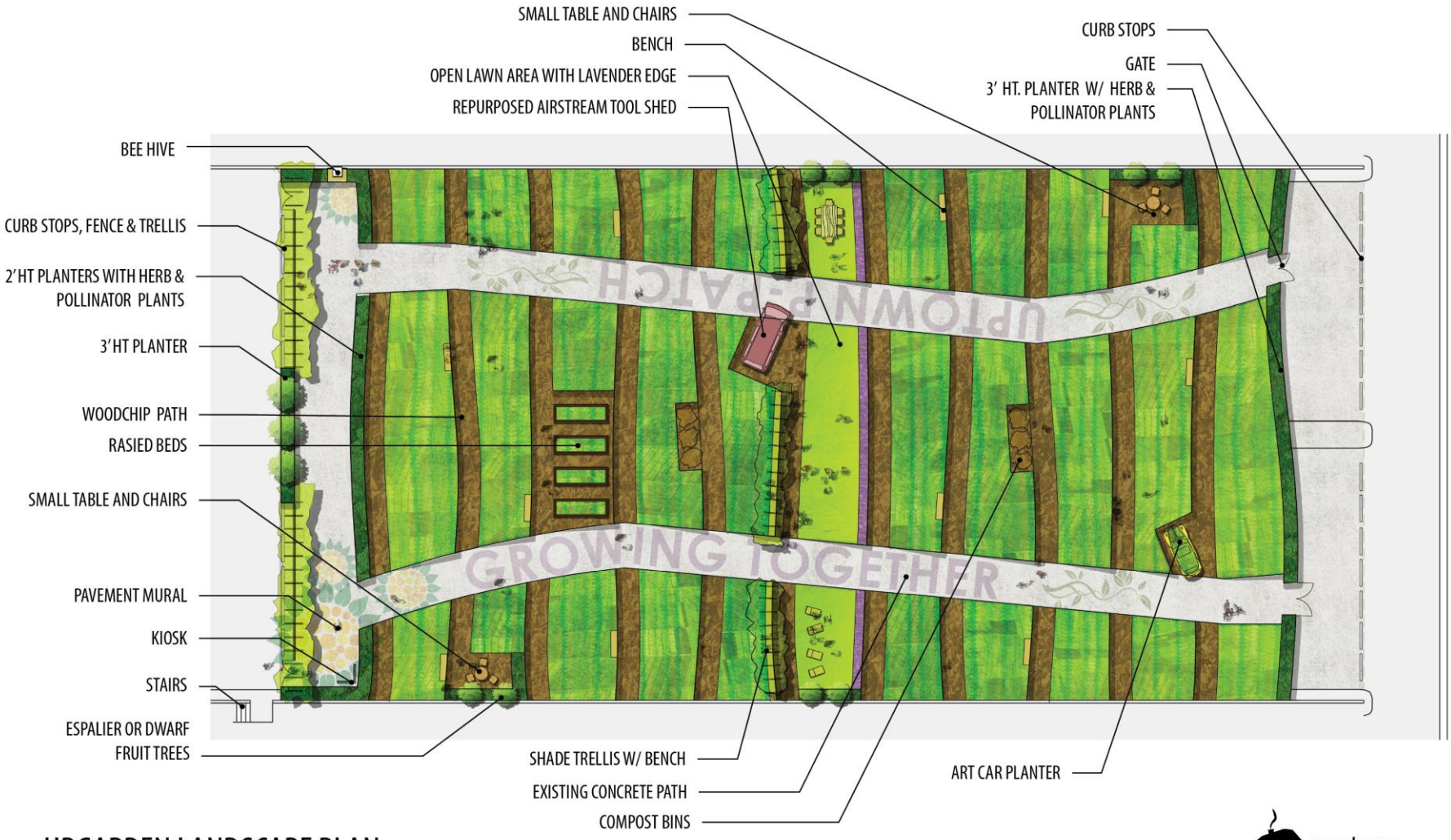
The community emerged from the workshops organized in multiple sub-committees tasked with figuring out and implementing various aspects of the garden's construction. Their work included making budgetary and design decisions, including the decision to hire a contractor to install the posts supporting the garden terraces. The rest of the garden was built entirely by volunteer labor over the course of two months, mostly during weekend work parties. The Kistler | Higbee Cahoot worked side-by-side with the community to provide the needed construction drawings and on-the-ground support to see that the garden was properly constructed. Volunteers have logged thousands of volunteer hours.

**Why is this project important?**
As the country's first large scale rooftop community garden, UpGarden P-Patch community garden is an innovative and exciting new precedent in the movement to grow more food in our cities. Since cities are becoming denser, rooftops are increasingly the only affordable places left for gardens.

**How much did this project cost?**
The design and construction budget for the project is $150,000, about 10% more than a ground-level community garden of similar size. At 30,000 sf, this averages to approximately $4-5 per sf. The cheapest green roofs typically cost closer to $20 a square foot.

The project also leveraged thousands of hours of community time and donations and will continue to do so through community maintenance of the garden.

**How long did it take to design and build the garden?**
This was a fast track project, with design and construction completed in just over 6 months.




# UPGARDEN LANDSCAPE PLAN

FEBRUARY 2012

SCALE: 1"=20'

KISTLER | HIGBEE CAHOOT
landscape + art + community